CLAIMS

1. A method for storing data on a computer system, the computer system having volatile memory and non-volatile memory, said method comprising:

identifying a first portion of the volatile memory that is being used to store data;

identifying a second portion of the volatile memory that is not being used to store data; and

in response to an input corresponding to a power-off condition of the computer system, saving the data corresponding to the first portion of the volatile memory in the non-volatile memory without saving the second portion of the volatile memory in the non-volatile memory.

2. The method of claim 1, further comprising:

compressing the data corresponding to the first portion of the volatile memory as first compressed data; and

wherein saving the data corresponding to the first portion of the volatile memory comprises saving the first compressed data in the non-volatile memory.

3. The method of claim 1, wherein the first portion of the volatile memory does not include disk cache.

4. The method of claim 1, wherein a copy of the data corresponding to the first portion of the volatile memory is not also stored in the non-volatile memory prior to the identifying step.

5. The method of claim 4, further comprising:

identifying a third portion of the volatile memory that is being used to store data, a copy of the data corresponding to the third portion of the volatile memory also being stored in the non-volatile memory; and

additionally saving the data corresponding to the third portion of the volatile memory in the non-volatile memory if the non-volatile memory has additional storage capacity remaining after allocating storage capacity for saving the data corresponding to the first portion of the volatile memory.

6. The method of claim 4, further comprising:

identifying a third portion of the volatile memory that is being used to store data, the data corresponding to the third portion of the volatile memory also being at least one of:

a) stored in the non-volatile memory; and

b) disk cache;

assigning priority to one of:

a) the data corresponding to the second portion of the volatile memory; and

b) the data corresponding to the third portion of the volatile memory for storage in the non-volatile memory; and

if the non-volatile memory has additional storage capacity remaining after allocating storage capacity for saving the data corresponding to the first portion of the volatile memory, additionally saving at least one of the data corresponding to the second portion of the volatile memory and the data corresponding to the third portion of the volatile memory in the non-volatile memory based upon the priority assigned.

7. A method for storing data on a computer system, the computer system having volatile memory and non-volatile memory, the volatile memory including disk cache, said method comprising:

identifying first data stored in the volatile memory that is at least one of:

a) not also stored in the non-volatile memory; and

b) not disk cache; and

in response to a power-off condition of the computer system, saving the first data in the non-volatile memory.

8. The method of claim 7, further comprising:

compressing the first data as first compressed data; and

wherein saving the first data comprises saving the first compressed data in the non-volatile memory.

9. The method of claim 7, further comprising:

identifying second data stored in the volatile memory that that is at least one of:

a) stored in the non-volatile memory; and

b) disk cache; and

if the non-volatile memory has additional storage capacity remaining after allocating storage capacity for saving the first data, additionally saving the second data in the non-volatile memory.

10. The method of claim 9, further comprising:

compressing the second data as second compressed data; and

wherein additionally saving the second data comprises saving the second compressed data in the non-volatile memory.

11. The computer system comprising:

volatile memory;

non-volatile memory; and

a power-off memory back-up system operative to:

identify a first portion of the volatile memory that is being used to store data;

identify a second portion of the volatile memory that is not being used to store data; and

save the data corresponding to the first portion of the volatile memory in the non-volatile memory without saving the second portion of the volatile memory in the non-volatile memory in response to an input corresponding to a power-off condition of the computer system.

12. The computer system of claim 11, wherein the power-off memory back-up system is further operative to:

identify a third portion of the volatile memory that is being used to store data, a copy of the data corresponding to the third portion of the volatile memory also being stored in the non-volatile memory; and

additionally save the data corresponding to the third portion of the volatile memory in the non-volatile memory if the non-volatile memory has additional storage capacity remaining after allocating storage capacity for saving the data corresponding to the first portion of the volatile memory.

13. The computer system of claim 12, wherein:

the non-volatile memory comprises a hard drive;

the copy of the data corresponding to the third portion of the volatile memory is saved on the hard drive; and

in additionally saving the data corresponding to the third portion of the volatile memory in the non-volatile memory, the power-off memory back-up system is operative to save the data corresponding to the third portion of the volatile memory to the hard drive.

14. The computer system of claim 12, wherein:

the non-volatile memory comprises a hard drive and a flash memory;

the copy of the data corresponding to the third portion of the volatile memory is saved on the hard drive; and

in additionally saving the data corresponding to the third portion of the volatile memory in the non-volatile memory, the power-off memory back-up system is operative to save the data corresponding to the third portion of the volatile memory to the flash memory.

15. A computer-readable medium having a computer program for performing a computer-implemented method on a computer system having volatile memory and non-volatile memory, with the volatile memory including disk cache, said method comprising:

identifying first data stored in the volatile memory that is at least one of:

a) not also stored in the non-volatile memory; and

b) not disk cache; and

in response to a power-off condition of the computer system, saving the first data in the non-volatile memory.

16. The computer-readable medium of claim 15, said method further comprising:

compressing the first data as first compressed data; and

wherein saving the first data comprises saving the first compressed data in the non-volatile memory.

17. The computer-readable medium of claim 15, said method further comprising:

identifying second data stored in the volatile memory that that is at least one of:

a) stored in the non-volatile memory; and

b) disk cache; and

if the non-volatile memory has additional storage capacity remaining after allocating storage capacity for saving the first data, additionally saving the second data in the non-volatile memory.

18. The computer-readable medium of claim 17, said method further comprising:

compressing the second data as second compressed data; and

wherein additionally saving the second data comprises saving the second compressed data in the non-volatile memory.